

ROTAMARKA™

Data Sheet

The Balmoral Engineering ROTAMARKA™ helps prevent collision of birds, low flying aircraft and equipment with overhead cables and wires by providing a 360-degree rotating visual warning.



Part No. Table (A)

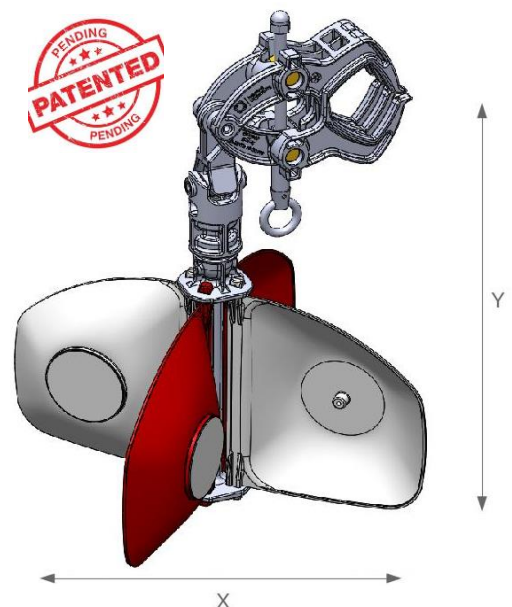
WM-CS-E-1H-RW	ROTAMARKA™ Screw Clamp Eye Ring Red White
WM-CS-E-1H-BW	ROTAMARKA™ Screw Clamp Eye Ring Black White
WM-CS-E-1H-BY	ROTAMARKA™ Screw Clamp Eye Ring Black Yellow
WM-CS-E-1H-BGID	ROTAMARKA™ Screw Clamp Eye Ring Black Glow in Dark
WM-CS-B-1H-RW	ROTAMARKA™ Screw Clamp Bayonet Red White
WM-CS-B-1H-BW	ROTAMARKA™ Screw Clamp Bayonet Black White
WM-CS-B-1H-BY	ROTAMARKA™ Screw Clamp Bayonet Black Yellow
WM-CS-B-1H-BGID	ROTAMARKA™ Screw Clamp Bayonet Black Glow in Dark

Dimensions Table (B)

Y	X	Clamp Closes To (A)*	Clamp Opens To (B)*	Weight
~12"	~13"	~5/64"	~2"	~28oz
~309mm	~335mm	~2mm	~50mm	~800g
Y = Drop from conductor when installed as depicted adjacent				

Materials Table (C)

Clamp, Body & Fins	Nylon 6
Soft jaw	TPE
Bearings	Stainless Steel
Pins & Bushes	Brass
Threaded Shaft	Stainless Steel
Lock Nuts	Brass + Stainless Steel
Reflectors	Acrylic



*Suitability of the conductor are subject to the engineering requirements of the asset owner

Spacing

The general recommendation is to space the devices 30-100ft or 10-30 metres apart or at a minimum of 1-2 Markers evenly spaced between towers or poles. However, please refer to our ROTAMARKA™ Instruction Sheet for more detailed information including guidance for different bird species and applications. This recommendation is subject to the requirements of The Asset owner and dependent on environmental conditions.

Ratings Table (D)

1	Recommended tightening torque	2.9ft-lb ^(a) 4Nm ^(a)	11	Wind Tunnel testing at a maximum of 67mph/108kph in accordance with standardised testing protocols	No adverse functional effect on unit
2	Clamp material tensile strength	19725 PSI ^(b) 136MPa ^(b)	12	Surface area of fins in a single plane	66inches ² 42,926mm ²
3	Line load (per unit) At wind speed of 11mph/18kph At wind speed of 22mph/36kph At wind speed of 67mph/108kph	0.18 lb or 0.8N (82g) ^(a) 0.67 lb or 3.0N (306g) ^(a) 6.00 lb or 27.0N (2753g) ^(a)	13	RPM At wind speed of 11mph/18kph At wind speed of 22mph/36kph At wind speed of 67mph/108kph	118 ^(a) 222 ^(a) 814 ^(a)
4	Coefficient of drag	1.11 ^(a)	14	Corona inception test IEC 61284-1997	Occurred at an equivalent of 178.4kV Ø-Ø ^(c)
5	Withstand voltage test AS 1931.1-1996, AS 2225-1994	Flash over occurred at an equivalent of 173kV Ø-Ø ^(c)	15	Corona extinction test IEC 61284-1997	Occurred at an equivalent of 162.8kV Ø-Ø ^(c)
6	Corrosion test AS 1247-2004 (ISO 10289-1999)	Brass = 7 Stainless Steel = 9-10	16	Ozone resistance of clamp and fin materials 1000 hour	No visual signs of damage
7	Testing of clamp assembly to 212°F/100°C	No adverse functional effect on unit	17	AS 3891.1:2021 Clause 4.2 AS 3891.2 2018 Clause 2.2 and Clause 2.3.1 (d)	Compliant ^(e)
8	Testing of clamp assembly to -31°F/-35°C	No adverse functional effect on unit	18	UV tested (fins) EN ISO 4892-2 (2013)	Compliant
9	Snow and ice testing	No adverse functional effect on unit, approx. 1.04oz or 40g additional load ^(d)	19	Slip test (Max load when slippage occurred) Refer to IEC 61897-2020 test method	78.2 lb ^{(c) (f)} 347.8N ^{(c) (f)}
10	Radio interference voltage (RIV) test IEC 61284-1997, IEEE 1656	166µV at 174.2kV Ø-Ø ^(c) 100µV at 116.2kV Ø-Ø ^(c) 77.6µV at 43.5kV Ø-Ø ^(c)			

(a) Results obtained at a leading Australian University using standardised indoor lab conditions.

(b) Results obtained from material data sheet and may vary depending on supplier.

(c) Results obtained from related test on ROTAMARKA warning marker with Eye Ring part sample, vary on product with Bayonet part sample.

(d) Testing performed in Hokkaido, Japan. Load inclusive of snow/ice build-up on device fins per unit.

(e) The ROTAMARKA product design compliant the standards General requirement, except the Vibration and Fire resistance tests.

(f) Results obtained from standardised indoor lab tested on Ø21.6mm OD ASCR conductor.

The data herein is an indication of product capabilities in known predetermined lab conditions and actual outdoor environments may vary.

Where stated, "unit" refers to a ROTAMARKA™ device.

For more product information please visit our website:

www.balmoralengineering.com

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